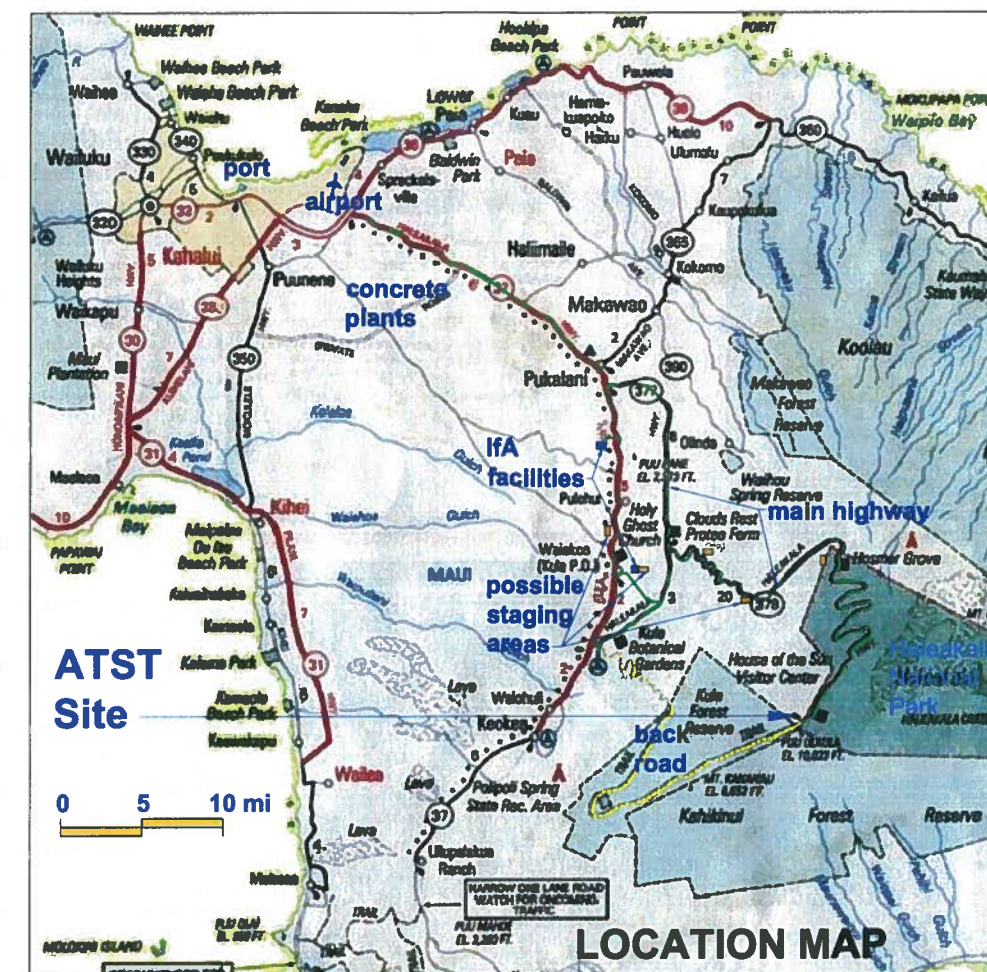


SCHEMATIC DESIGN of the SUPPORT FACILITIES for the Advanced Technology Solar Telescope Haleakalā High Altitude Observatory Maui, Hawai'i

*Note: All Pier/Telescope areas and rotating portions of Enclosure are included in the table below to provide a complete summary of habitable building areas. These floor areas are, however, not included in the Support Facilities Contract. (see area diagrams on plans A1 to A7)

Space Description	Floor Area Summary							
	Gross Floor Areas							
	Ops. Bldg.		Enclosure*		Pier/Teles.*		Utility Bldg.	
	ft ²	m ²	ft ²	m ²	ft ²	m ²	ft ²	m ²
Telescope Level	669	62	4,016	373	1,329	124		
Azimuth Mech Level	671	62	2,270	211	880	82		
Utility Level	1,086	101	3,810	354	1,595	148		
Coudé Level	3,556	330	1,565	145	3,566	331		
Mezzanine Level	2,212	206	570	53	3,566	331		
Ground Level	5,319	494	1,648	153	3,566	331	2,560	238
TOTAL AREA (gross):	13,513	1,256	13,879	1,290	14,502	1,348	2,560	238
Total ATST Facility Area	44,454 ft ²		4,131 m ²					



PROJECT INFORMATION:

- **Land Classification:**
Conservation District, General Subzone
- **Land Owner and Lead agency for Conservation District Use Permit:**
University of Hawaii,
Institute for Astronomy (IfA)
- **ATST Site Area:**
Approximately 0.9 acres
(exact lease from IfA to be defined)
- **Total Building Area:** 44,454 sq.ft.
- **Occupancy Class:** Group B (2006 IBC)
- **Construction:** Type II-B

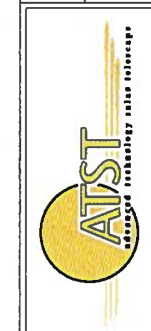
Index of Drawings (30 sheets)	
T1	Title Sheet
C1	Overall Site Plan
C2	Electrical, Grounding & Wastewater Site Plan
C3	Stormwater Control & Soil Placement Site Plan
C4	Location Site Plan
C5	Grading and BMP Plan & Details
C6	Building Layout Plan
S1	Foundation Plan
S2	Structural Framing Plan
S3	Structural Section Through Pier & Enclosure
S4	Structural Details
A1	Ground Level Floor Plan
A2	Mezzanine Level Floor Plan
A3	Coudé Level Floor Plan
A4	Coudé Level Reflected Ceiling Plan
A5	Utility Level Floor Plan
A6	Azimuth Mechanical Level Floor Plan
A7	Telescope Level Floor Plan
A8	S&O Building North & Utility Building Elevations
A9	S&O Building East & West Elevations
A10	S&O Building South Elevation
A11	Operations Building, Enclosure & Pier Section (E-W)
A12	Operations Building Section (N-S) and Wall Section
A13	Stairs & LU/LA Lift Sections
A14	Elevator & Platform Lift Sections, Architectural Details
A15	Utility Building & Partial Mees Facility Plan
U1	S&O Bldg. Ground Level - Interconnects & Services Plan
U2	S&O Bldg. Coudé Level - Interconnects & Services Plan
U3	S&O Bldg. Utility Level - Interconnects & Services Plan
G1	Schedules (Doors, Finishes, Interconnects & Services)

drawn: Jeff Barr
checked: M. Warner
approved: J. Wagner
August 20, 2009

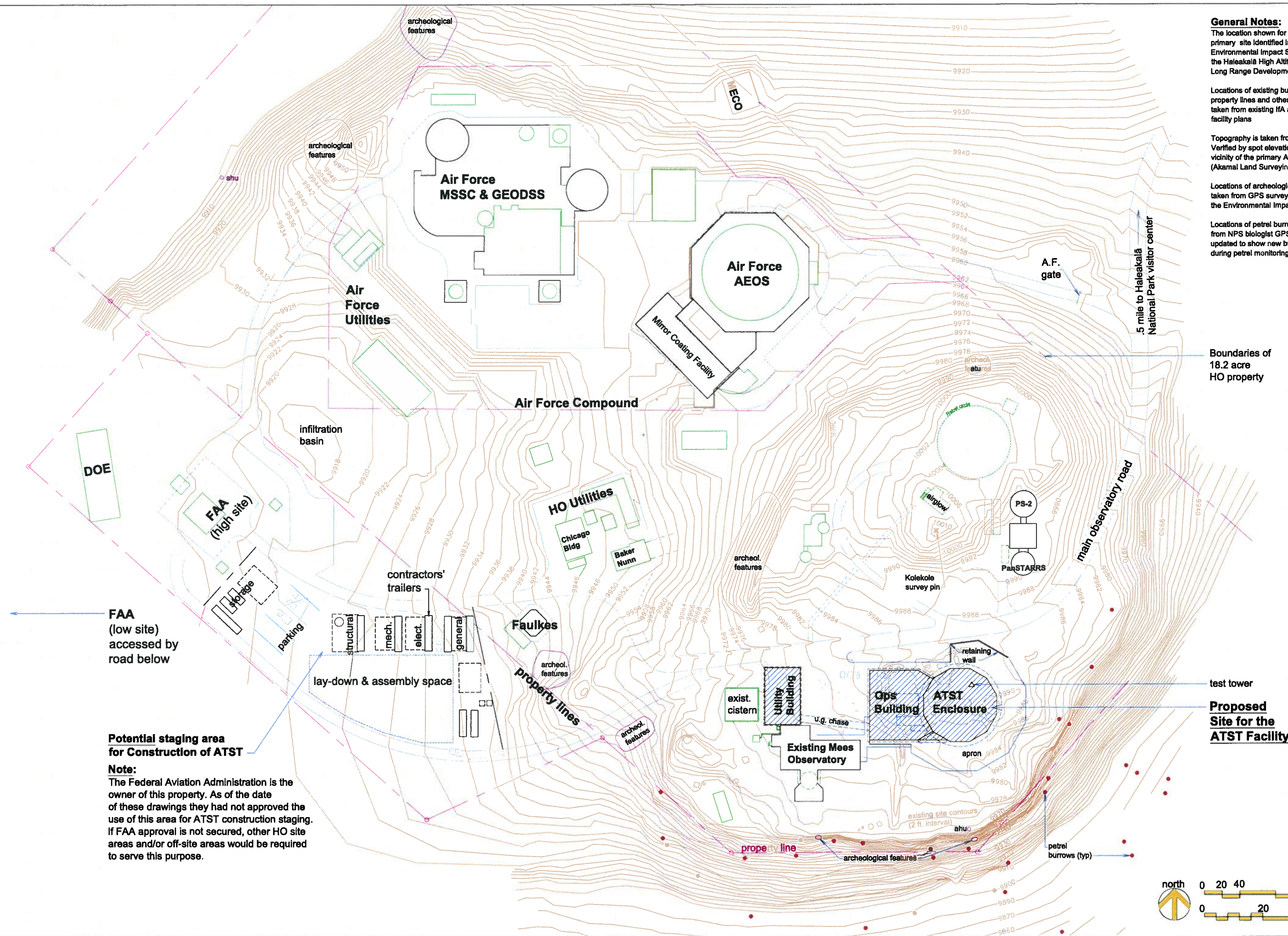
SCHEMATIC DESIGN DRAWINGS

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Advanced Technology Solar Telescope
Support Facilities at Haleakalā Observatory



size D no
rev B scale
ATST
DWG-00124
sht T1 1 of 30



General Notes:
The location shown for ATST is the primary site identified in the Environmental Impact Statement and in the Haleakalā High Altitude Observatory Long Range Development Plan

Locations of existing buildings, roads, property lines and other features are taken from existing IfA and Air Force facility plans

Topography is taken from existing plans. Verified by spot elevation survey in the vicinity of the primary ATST site (Akamai Land Surveying, April 2005).

Locations of archeological features are taken from GPS surveys conducted for the Environmental Impact Statement.

Locations of petrel burrows are taken from NPS biologist GPS survey and updated to show new burrows found during petrel monitoring program

Boundaries of 18.2 acre HO property

FAA (low site) accessed by road below

Potential staging area for Construction of ATST

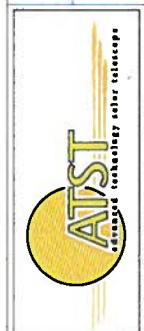
Note:
The Federal Aviation Administration is the owner of this property. As of the date of these drawings they had not approved the use of this area for ATST construction staging. If FAA approval is not secured, other HO site areas and/or off-site areas would be required to serve this purpose.

drawn: Jeff Barr
checked: M. Warner
approved: J. Wagner
August 20, 2009

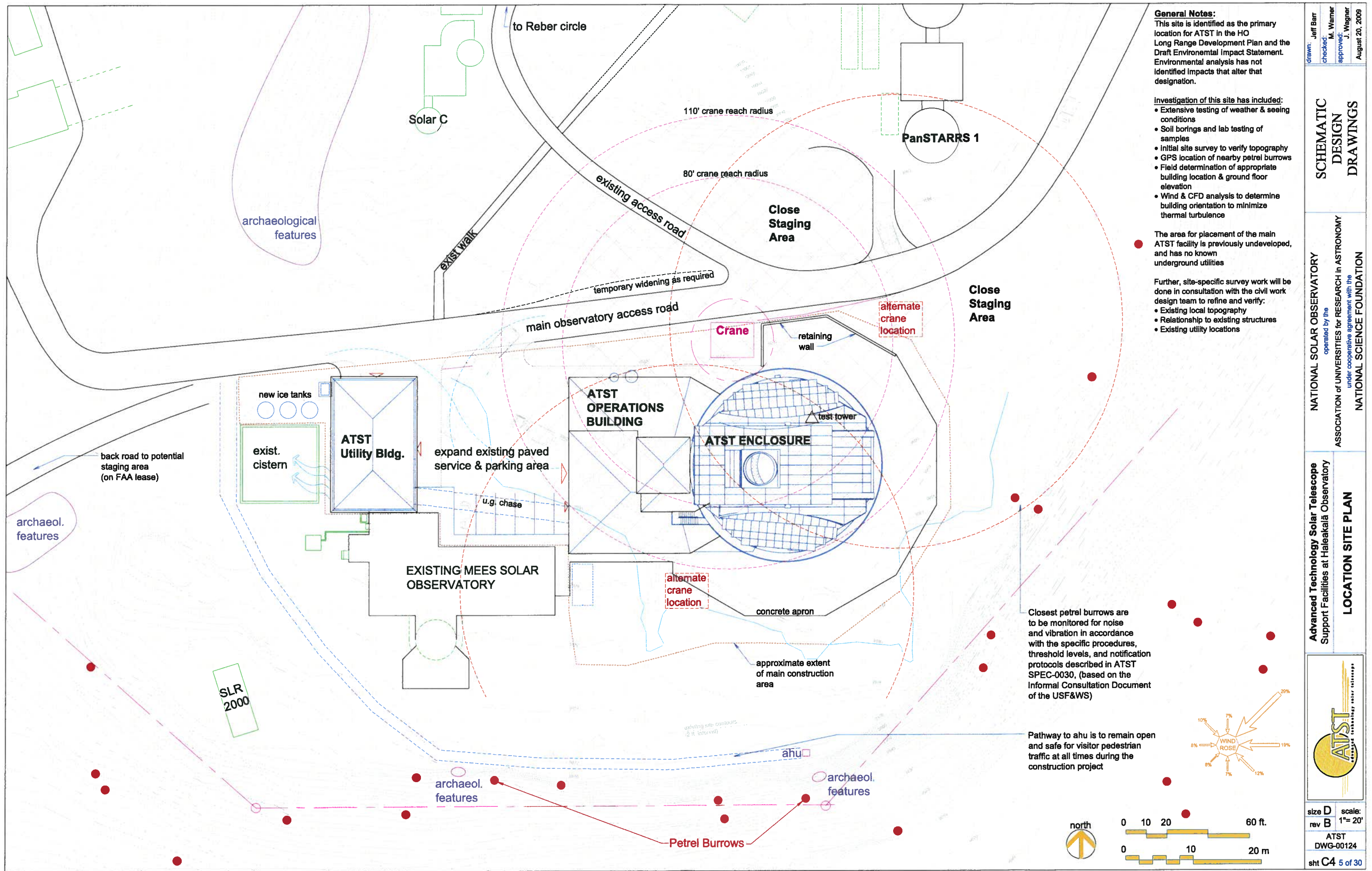
SCHEMATIC
DESIGN
DRAWINGS


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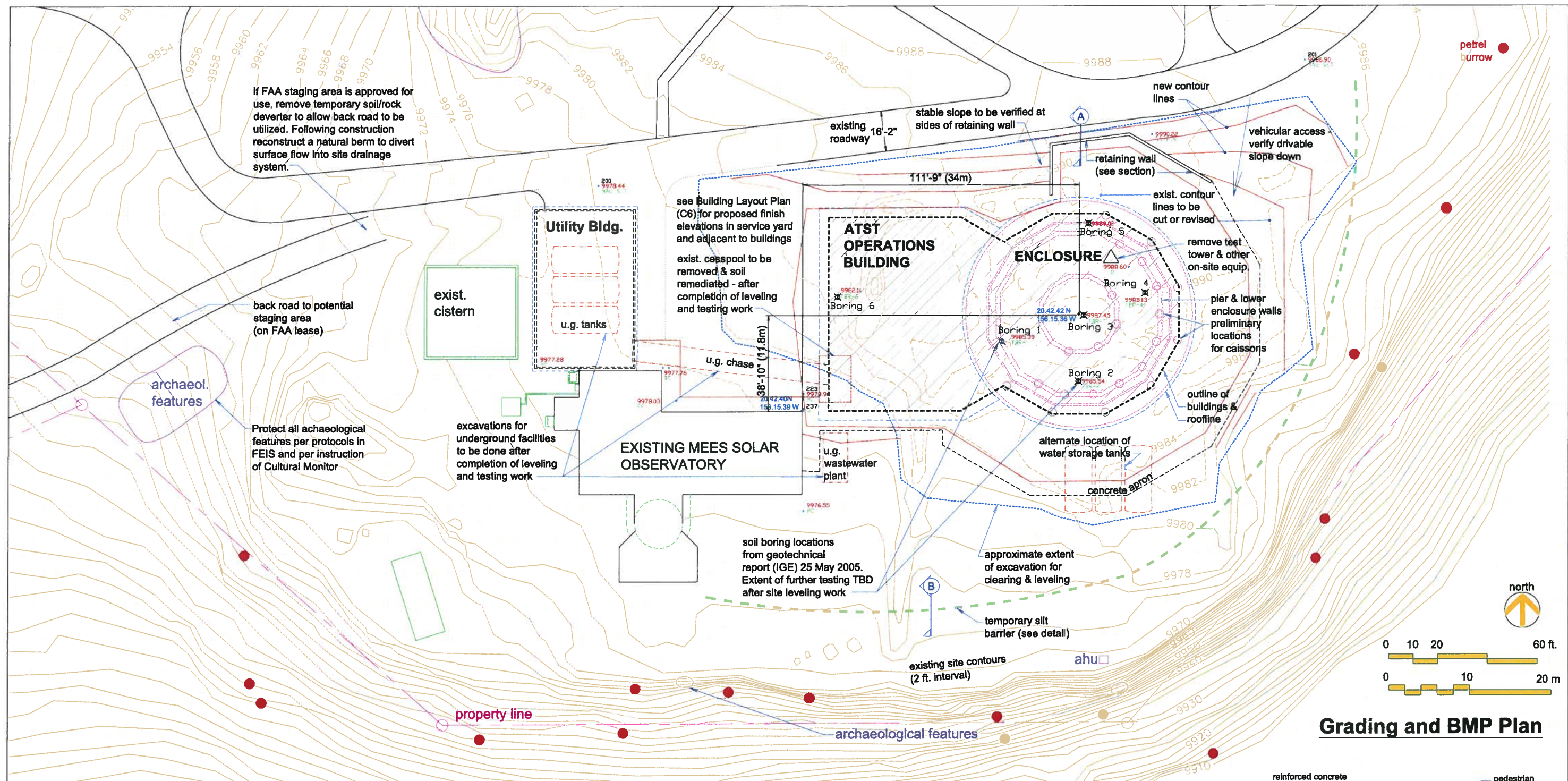
Advanced Technology Solar Telescope
Support Facilities at Haleakalā Observatory
OVERALL SITE PLAN



size D
rev B
scale: 1"= 50'
ATST
DWG-00124
sht C1 2 of 30



SCHEMATIC DESIGN DRAWINGS	drawn: Jeff Barr
	checked: M. Warner
NATIONAL SOLAR OBSERVATORY <small>operated by the</small> ASSOCIATION of UNIVERSITIES for RESEARCH in ASTRONOMY <small>under cooperative agreement with the</small> NATIONAL SCIENCE FOUNDATION	approved: J. Wagner
	August 20, 2009
Advanced Technology Solar Telescope Support Facilities at Haleakalā Observatory	LOCATION SITE PLAN
	
size D rev B	scale: 1"= 20'
ATST DWG-00124	
sht C4 5 of 30	



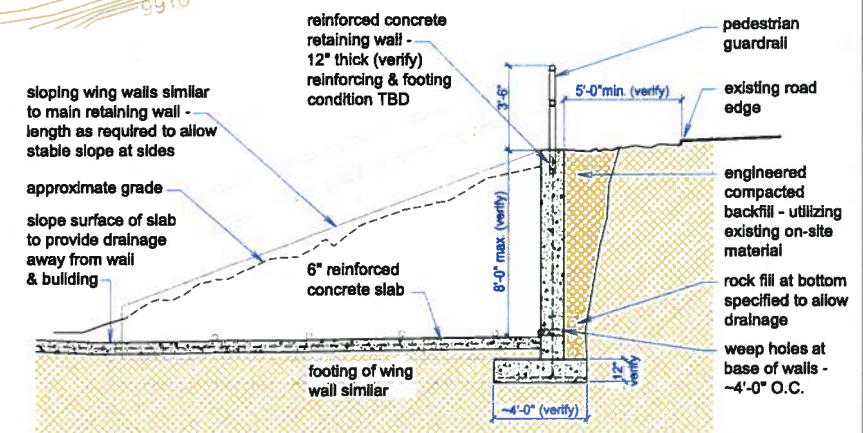
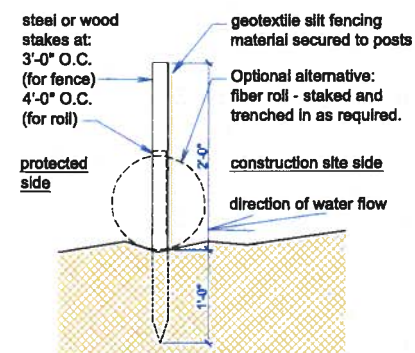
General Notes on Excavation and Best Management Practices (BMPs)

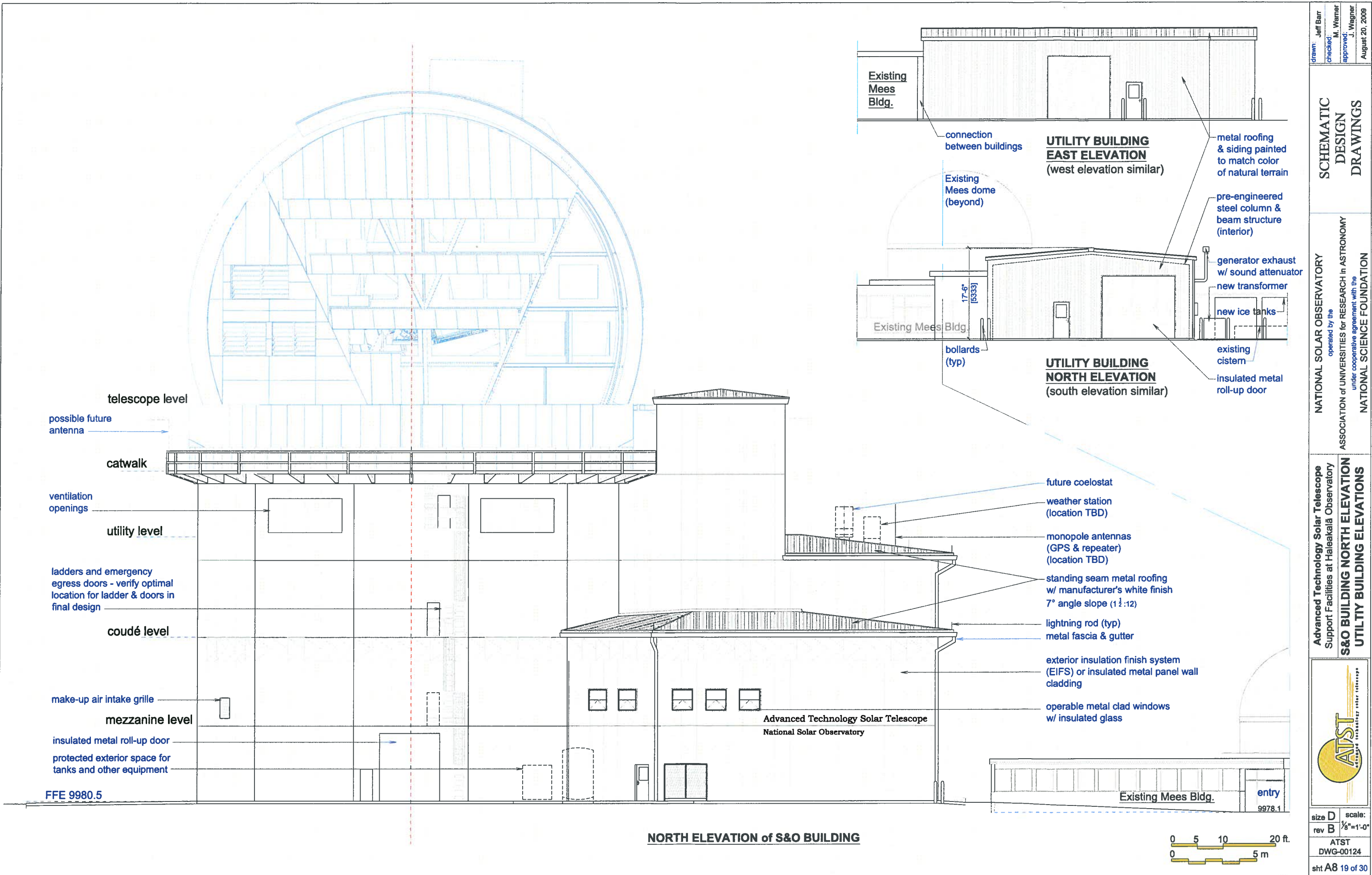
During the grading of the site for ATST as indicated and during all subsequent construction of the ATST facilities, BMPs will be implemented to minimize stormwater runoff, protect adjacent areas, and to ensure no injurious effect on groundwater. These measures will include all BMPs specified or referenced in the following documents:

- Final Environmental Impact Statement (FEIS) for the ATST project
- Stormwater Masterplan for HO (Volume II, Appendix L of the FEIS)
- NPDES General Permit for Discharge Associated with Construction Activities (application pending completion of FEIS)

In addition to the measures shown on the plan, specific BMPs will include, but not be limited to, the following:

- During early construction temporary diversers shall be utilized to direct surface water flow to the existing stormwater drainage system.
- As soon as possible, the permanent system shall be installed to capture rainwater in underground tanks and the cistern.
- Portable toilets with containment tanks shall be utilized during construction work.
- A Cultural Monitor shall be on site during all leveling and excavation activities to prevent damage to cultural resources.
- Native soils shall be used to fill holes upon completion of construction.
- Excavated areas, and soil deposition areas shall be replanted with native vegetation to prevent erosion.
- Dust control shall be done by watering the disturbed ground using non-potable water trucked to the site by the contractor specifically for that purpose. Potable water shall not be used for dust control.





Notes:
Enclosure and TMA from
SolidWorks model July 2009

drawn: Jeff Barr
checked: M. Warner
approved: J. Wagner
August 20, 2009

SCHEMATIC
DESIGN
DRAWINGS

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Advanced Technology Solar Telescope
Support Facilities at Haleakalā Observatory
S&O BUILDING, ENCLOSURE & PIER
SECTION (E-W)



size D scale:
rev B 1/8" = 1'-0"
ATST
DWG-00124
sht A11 22 of 30

